

NATIONAL FISH HABITAT PARTNERSHIP

2019 ANNUAL REPORT

OUR MISSION

To protect, restore, and enhance the nation's fish and aquatic communities through partnerships that foster fish habitat conservation and improve the quality of life for the American people.

2019 NATIONAL FISH HABITAT PARTNERSHIP BY THE NUMBERS

Through the National Fish Habitat Partnership program, the U.S. Fish and Wildlife Service and its partners provided more than **\$18 million** to support **83** fish habitat conservation projects in **34 states**. The Service provided **\$4 million** in 2019, with state resource agencies, non-governmental organizations, and other partners contributing an additional **\$14 million**.

2019 NATIONAL FISH HABITAT PARTNERSHIP HIGHLIGHTS

- In March, the National Fish Habitat Partnership received a grant through the Association of Fish & Wildlife Agencies Multistate Conservation Grant program of \$250,680.00 to benefit Partnership priorities.
- In March, the National Fish Habitat Conservation Through Partnerships Act, was introduced in both the House (H.R.1747) and Senate (S.754), to codify the National Fish Habitat Partnership program.



ON THE WEB



www.fishhabitat.org
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Photos: TOP: Chipola River, FL (Southeast Aquatic Resources Partnership); MIDDLE LEFT: Boone River Watershed, IA (Fishers & Farmers Partnership); MIDDLE RIGHT: Minsi Lake, PA (Reservoir Fish Habitat Partnership); BOTTOM: Deep Creek Town Diversion, OR (Western Native Trout Initiative)





Megler Creek, WA photo (Pacific Marine and Estuarine Partnership)

■ In July, the National Fish Habitat Partnership announced their Waters to Watch for 2019. Those projects included (with associated partnerships):

1. [Alexander Creek, AK](#) – Mat-Su Basin Salmon Habitat Partnership
2. [Amargo Creek, NM](#) – Desert Fish Habitat Partnership
3. [Coal Creek, WY](#) – Western Native Trout Initiative
4. [Crews Creek, GA](#) – Southeast Aquatic Resources Partnership
5. [Elephant Butte Reservoir, NM](#) – Reservoir Fish Habitat Partnership
6. [Megler Creek, WA](#) – Pacific Marine and Estuarine Partnership
7. [Spasski River and Hoonah Native Forest Partnership, AK](#) – SE Alaska Fish Habitat Partnership
8. [Sullivan Gulch, OR](#) – Pacific Marine and Estuarine Partnership
9. [Tainter Creek, WI](#) – Fishers and Farmers Partnership/ Driftless Area Restoration Effort
10. [Upper Green Valley Creek, CA](#) – California Fish Passage Forum



Alexander Creek, AK (Mat-Su Basin Salmon Habitat Partnership)

NATIONAL FISH HABITAT PARTNERSHIP HOSTS FILM FESTIVAL AT 2019 AFS/TWS CONFERENCE

The National Fish Habitat Partnership and American Fisheries Society's Fish Habitat Section (<https://habitat.fisheries.org/>)



teamed up to host a film festival for the American Fisheries Society/ Wildlife Society (AFS/TWS) Joint Meeting in Reno, NV in 2019. The festival spanned the entirety of the conference and included over 80 films shown during 14 showing sessions, which brought in over 500 attendees.

Films showcased where resource practitioners and partners unite to protect, restore, and enhance freshwater, coastal, and terrestrial habitats that support the needs of fish and wildlife. The Film Festival was sponsored by AFS/TWS, The National Fish Habitat Partnership, and Fishpond. The films shown are available on the YouTube channel for the partnership: <https://bit.ly/341TS0E>

[Beyond the Pond](#), the 501c3 non-profit organization established to benefit the 20 Fish Habitat Partnerships under NFHP, has continued efforts to help the Fish Habitat Partnerships through grants, including a grant provided to the [Fishers and Farmers Partnership](#) to host a Watershed Leaders Network workshop in 2019. Bass Pro Shops also provided a donation of \$25,000 to benefit the on-the-ground conservation priorities of our partnerships in 2019. Beyond the Pond has also continued its partnership with both [RepYourWater](#) and [Fishpond](#) to further benefit the work of the Fish Habitat Partnerships. Most of the 20 Partnerships under NFHP have online donation pages set-up to receive donations at: <https://secure.processdonation.org/beyondthepondusa/Donation.aspx>



FHP ACCOMPLISHMENTS (2019)

Atlantic Coastal Fish Habitat Partnership

Communications & Outreach

The Atlantic Coastal Fish Habitat Partnership (ACFHP) celebrated its 10-year anniversary as a Fish Habitat Partnership this year, and released a [factsheet](#) to share some of its accomplishments over the past decade. ACFHP also finalized its [Business Plan](#), which describes the Partnership's mission, objectives, and past accomplishments, as well as how ACFHP can work with donors to achieve their conservation goals. It details ACFHP's structure, governance, and financial management capacity, and encourages potential donors to partner with ACFHP to improve fish habitat conservation along the Atlantic coast. The Business Plan will help ACFHP in future fundraising initiatives.



ACFHP is currently finalizing its new Action Plan, which will cover the 2020 – 2021 timeframe. It is a subset of the [2017 – 2021 Conservation Strategic Plan](#), and contains a set of objectives, strategies, and actions that can be accomplished over the course of a two-year period. The new action plan will be released in January 2020.

Science

ACFHP completed its research [project](#) with Dr. Brad Stevens's lab from the University of Maryland Eastern Shore to improve ACFHP's understanding of the relationship between black sea bass abundance and habitat characteristics in the Mid-Atlantic region. The work was funded by the Mid-Atlantic Fishery Management Council (MAFMC) through Beyond the Pond, and so far has resulted in presentations to the MAFMC and Atlantic States Marine Fisheries Commission, and one [peer-reviewed publication](#).

ACFHP also continues its progress on our initiative to characterize fish habitat conservation areas through GIS mapping and analysis for the entire U.S. Atlantic coast. The southeast region, from North Carolina to Florida, has been [analyzed](#) thanks to a collaboration with the Southeast Aquatic Resources Partnership through funding from the NOAA Fisheries Southeast Regional Office. The northeast, from Maine through Virginia, will be completed by the end of 2019 through a partnership with The Nature Conservancy, funded by NOAA Greater Atlantic Regional Fisheries Office. The resulting maps will help ACFHP and partners identify where best to invest effort and future funding.

Conservation Accomplishments

This was ACFHP's tenth year partnering with the US Fish and Wildlife Service to support on the ground conservation through NFHP funding. The following projects were funded in FY2019: *Whitford Pond Dam & River Restoration Design, Mystic River, CT*; *Restoration of SAV in the Freshwater and Meso-Haline Region of the Chesapeake Bay*; *Fish Passage, outlet Stream/Outlet Dam, East Vassalboro, ME*; *Fish Passage, Outlet Stream/Box Mill Dam, North Vassalboro, ME*; and *Old Mill Pond Dam Fish Passage Wreck Pond Brook in NJ*.

The *Whitford Pond Dam & River Restoration Design* project, when construction is complete, will open 1.2 river miles for diadromous fish like shad and river herring, resulting in 26.4 acres of improved habitat. *Restoration of SAV in the Freshwater and Meso-Haline Region of the Chesapeake Bay* will restore 10 – 20 acres of SAV through seed harvest and dispersal. It is part of the Chesapeake Bay Program's goal of restoring 185,000 acres in the Bay. The *Outlet Dam and Box Mill Dam* projects on Outlet Stream in Maine will provide access to 4,000 acres of nursery habitat for over 800,000 alewives through the construction of Denil fishways. There are currently six dams on Outlet Stream and they will all either be removed or have fish ladders constructed by 2021. Finally, the *Old Mill Pond Dam Fish Passage, Wreck Pond Brook* project in New Jersey will result in the construction of a 60' long steep pass fishway to open 0.9 miles of spawning habitat for an alewife population that has been in decline.

California Fish Passage Forum

Communications & Outreach

In 2019, much of the California Fish Passage Forum's (Forum) outreach has centered around the release of a new web-based version of [FISHPass](#), the Forum's decision support tool designed to help users identify and prioritize anadromous fish passage barriers for remediation in California. Representatives from the Forum presented a poster to preview the tool at the Salmonid Restoration Federation's annual conference in Santa Rosa, CA in April, and gave a presentation at the American Fisheries Society Annual Conference in Reno, NV in October in conjunction with the official release of the tool. FISHPass' official release also included blast emails to the Forum's email listserv, and an introductory webinar which was recorded and is posted on a new updated page on the Forum's website describing FISHPass. The Forum also participated in collaborative/information sharing calls with other FHPs



(Southeast Aquatic Resource Partnership (SARP) and the Midwest Glacial Lakes Partnership (MGLP) to discuss lessons learned in the development or consideration of similar tools in their regions. Promoting FISHPass will be a top priority for the Forum in 2020 as well.

Science

Refining the data inputs and finalizing the new web-based user interface for [FISHPass](#) was a top priority for the Forum in 2019. FISHPass uses barrier information from the California Passage Assessment Database (PAD) and fully accounts for spatial layout of the barriers in the network, cumulative barrier passability, potential upstream habitat, and optionally, estimated costs. In response to feedback from partners and stakeholders during testing phases, the Forum worked to refine the tool's input data. The Forum focused heavily on building out the estimated cost data, potential upstream habitat (baseline fish habitat), and updating the PAD. The Forum's Science & Data Committee continued to support quality control and updating of data included in the PAD (which is also an important data input for FISHPass). In 2019 this included completing a data gap analysis to determine future assessment needs, integrating Pacific Lamprey assessment database changes and creating a comprehensive assessment form, as well as a review of various regional recovery plans for barriers that may be missing or misrepresented in the PAD.

The Forum conducted its annual review and update of the [Fish Passage Incidental Report](#) designed to be used for rapid barrier inventorying and data collection. In September 2019, the National Marine Fisheries Service Southwest Region reissued the *Guidelines for Salmonid Passage at Stream Crossings* (originally issued in 2001), which included adjustments informed in part by a project funded by the Forum in [2016 to assess juvenile fish passage](#).

Conservation Accomplishments

In 2019, the Forum provided funding to six projects that will address connectivity needs and habitat restoration for Coho and Chinook salmon, steelhead, Pacific lamprey, and other aquatic species by improving access to at least 44 miles of habitat. In addition to removing and remediating barriers to fish passage, some of these projects also provide collaborative and outreach opportunities to key partners and stakeholders including the Tolowa Dee-ni' Nation. Another project will build upon projects recently supported by the Forum including incorporating recommendations for Pacific lamprey and strategically apply them as management tools for barrier assessment and optimization of remediation strategies for Pacific lamprey in the Sacramento Basin. In addition to meeting priorities of the Forum, this project will also address threats to anadromous Pacific lamprey determined by the Pacific Lamprey Conservation Initiative's threat assessment and regional implementation plans.

Desert Fish Habitat Partnership

Communications & Outreach

The Desert Fish Habitat Partnership (DFHP) has continued to have a strong communications and outreach presence for FY19.



DFHP maintained and updated our [website](#) throughout the year, including sending out [Shout-Outs](#), announcing requests for proposals, and highlighting FY18 projects. DFHP also continued the #DesertFishFriday initiative which highlights one of DFHP's 179 species on multiple social media platforms, including Facebook, Instagram, and Twitter. Other outreach activities included helping to coordinate Fish in the Classroom activities in three classrooms on the Fort Apache Indian Reservation and featuring a booth at the White Mountain Nature Center's Wildlife Festival and the 2019 Native American Fish and Wildlife Society National Conference in Phoenix, AZ.

Science

Partners from all eight funded projects in FY19 have incorporated scientifically sound methodologies for monitoring the success of their projects. These include population assessments and monitoring, evaluation of fish movement through newly constructed fishways, temperature and flow monitoring, and vegetation analysis.

DFHP continued to pursue funding to fill aquatic assessment gaps within its geographic range in FY19. Once these assessments are funded, DFHP will be able to fully incorporate a science-based prioritization strategy for funding habitat restoration projects. These assessments will incorporate climate change factors so that the conservation of climate vulnerable desert species will be scientifically supported.

Conservation Accomplishments

In FY19, the DFHP funded eight on-the-ground habitat restoration and protection projects. These projects were across all four of DFHP's priority regions: Basin and Range, Lower Colorado, Upper Colorado, and Rio Grande. In total, the conservation of 16 different desert fish species was supported through barrier removal, refugia creation, stream channel restoration, non-native species removal, and exclusion/fencing projects.

These projects will restore or enhance over 56 wetland acres, over 12 instream miles and two riparian miles, remove two barriers reopening over seven stream miles to fish passage, and complete a minimum of 25 activities directly related to the control or management of aquatic invasive species. These outputs will help drive species conservation and will support multiple recovery plans.

Driftless Area Restoration Effort

Communications & Outreach

In 2019, the Driftless Area Restoration Effort (DARE), completed a 16-page colored brochure “[Building a Fish Habitat Partnership](#),” highlighting our more than 10-year effort to improve cold-water streams with our partners in the Driftless Area of SW Wisconsin, NW Illinois, NE Iowa and SE Minnesota. The brochure also contains several quotes from our partners and variety of success stories. DARE printed 10,000 copies and continue to distribute them at every major event. Our Facebook continues to be updated and DARE now has close to 1,500 followers. In October, DARE had another successful bus tour with more than 75 of our partners. This is an annual event where DARE hired a 55-passenger commercial bus and tour a region of the Driftless Area looking at recently completed projects. The tour provides one more opportunity for Fisheries Biologists, managers and conservationists from across the four-state region to discuss issues, practices and more.

Last June, DARE partnered with a variety of organizations to host a stream restoration field day on Tainter Creek. Several hundred people came out to enjoy fishing, a stream shocking demo, raffles, food and learn about conservation in the Tainter Creek Watershed.

Science

An Iowa State University graduate student conducted a fish community assessment in headwater streams within the Driftless Area of Northeast Iowa. Objectives include determining the current distribution of brook trout, which will be more refined than the Downstream Strategies model that was completed in 2012. Physical habitat characteristics and size structure will be investigated across spatial scales along with variation among sites with and without brown trout. The graduate student completed his second field season in 2019 and will be working to complete the modeling effort, assessment report, and thesis. Information will be used by area fisheries managers to make decisions about the future protection and management of these resources to include maintaining and increasing the resiliency of coldwater stream/riparian habitat and the resident coldwater fish community.

DARE worked with a private consultant and Trout Unlimited Science team to develop [The WiseH2O mApp](#), a flexible platform that allows users to see, examine previous observation data and messaging on what the results mean, and view regional observation results. Information is posted to the cloud, allowing water quality screening data to be crowd-sourced across broad geographies to characterize regional water quality conditions, identify potential problem areas, and educate anglers and other users on water quality. The trial period was in 2019 and in 2020 in hopes to broaden its application with volunteers.



Conservation Accomplishments

DARE was successful in writing and receiving a \$9.2M Regional Conservation Partnership Program proposal that will be used by our partners in the four state Driftless Area to cover the main share of their restoration projects. In the first year of sign-up, landowners' submitted over 45 applications, and \$1.5M dollars were obligated to construct/restore over 4.5 miles. Our partners more than matched the obligated dollars with close to \$3M in match. The DARE steering committee raised more than \$9,000 from Trout Unlimited (TU) Chapter donations to hire three summer interns to brush, sign and treat invasive plants on past restoration projects.

In 2019, DARE collaborated with The Prairie Enthusiasts to gather milk weed seed to distribute to stream projects. Milkweed is critical for the survival of monarchs and beneficial to other pollinators. The federally endangered Rusty Patched Bumble Bee has also been shown to occupy areas throughout the Driftless Area. DARE supplemented the mix with an additional \$5,000 worth of additional pollinator seed and distributed the seed free of charge to more than 30 projects.

Eastern Brook Trout Joint Venture

Communications & Outreach

A publication titled [The Eastern Brook Trout: Roadmap to Conservation](#), which succinctly summarizes the EBTJV's blueprint for wild Brook Trout conservation was produced and distributed to partners; publicized in the National Fish Habitat Partnership's February 2019 Newsletter; and, uploaded to the EBTJV's [website](#).



Sixty-three news articles about Brook Trout conservation efforts were posted on the EBTJV's [Facebook Page](#), which has 2,972 followers, reaching more than 53,750 people.

Science

The partnership is pursuing a better understanding of Brook Trout genetics across its geographic range, from a management perspective. This effort is being driven by the need to determine: the level of affect hatchery-origin Brook Trout are having on wild Brook Trout genetics; how best to select donor populations for restoring wild Brook Trout in waters where they have been extirpated; whether spatial isolation and restricted gene flow influence phenotypic variation within and among wild Brook Trout populations; whether genetic rescue is a tool that can provide population resilience; and in what way genetics can be used to monitor Brook Trout population trends and their responses to conservation actions taken.

Conservation Accomplishments

Three Brook Trout conservation projects received \$108,550 in National Fish Habitat Action Plan funds from the US Fish and Wildlife Service, while other project partners provided an additional \$1.1 million in funding. These projects focused on: reconnecting fragmented cold-water habitat; conserving genetic diversity; and increasing recreational fishing opportunities for wild Brook Trout. The socioeconomic benefits produced by these projects is estimated to be \$17.8 million.

Fishers & Farmers Partnership for the Upper Mississippi River Basin

Communications & Outreach

The Fishers & Farmers Partnership (FFP) worked to secure funding from the McKnight Foundation to begin work in 2020 on a new Watershed Leaders Network Workshop. Funds for the workshop were managed by Beyond the Pond.

Fishers & Farmers Partnership for the Upper Mississippi River Basin

FFP, had a 2019 Waters to Watch Project Selected – Tainter Creek Watershed, WI.

The FFP submitted three films to the NFHP/AFS Film Festival, worked on film review team led by Debbie Hart from Southeast Alaska FHP. The FFP, also gave presentation to Rotary International, Native American Fish & Wildlife Society, Sustainability Institute, GrassWerks-WI DNR, and Moderator at DARE Symposium.

The FFP presented at six Field Days with Farmer-led groups and also hosted a Collaborative Conservation Live Broadcast [Collaborative Conservation Live Broadcast](#) and [podcast](#) with Iowa Soybean Association and U.S. Fish and Wildlife Service at National Conservation Training Center.

Science

The FFP has been working on a monitoring program that incorporates social monitoring with chemical, biological, and physical monitoring. In addition, social assessment tools are being created that can be adapted to meet evaluative needs associated with individual watersheds and projects.

The FFP collaborated with Winrock International – Wallace Pasture Project, Valley Stewardship Network, Tainter Creek Farmer Led Council, and partners near Viroqua, WI on a Decision Support Tool that will help transition land use from row crops to rotational grazing.

The FFP updated a story map on the Fishers & Farmers Website with project data, as well as conducted six fish surveys on restored oxbows, while project partners surveyed nine more oxbows in 2019.

Conservation Accomplishments

- Restored three oxbows in the Boone River Watershed (BRW), IA
- Planted 186 ac cover crops in BRW
- 1.97 ac wetland restored BRW
- Planted 855 ac (25% of the tillable ac) with cover crops – Rice Creek, MN
- Preventing 8,500 pounds nitrate & 210,000 pounds of soil entering Rice Creek
- 1.15 miles streambank restored/enhanced Tainter Creek, WI
- 16.7 ac riparian/restored at Tainter Creek
- 1.2 mi instream restored at Tainter Creek
- 59 habitat structures placed in stream placed in the stream at Tainter creek
- 13 active projects in 2019, completed 7
- 2 Joint projects with DARE

Great Lakes Basin FHP

Communications & Outreach

The GLBFHP Coordinator has contacted Great Lakes Basin agencies and organizations to join the Great Lakes Basin Fish Habitat Steering Committee (Committee). Currently, there are 10 new Committee members representing federal, state, and non-governmental agencies in the Great Lakes Basin, and are waiting for several other agencies to provide members.



Conservation Accomplishments

The GLBFHP was able to fund one project in 2019 using Great Lake Restoration Initiative funding. The project is the Walbridge Road Rush Creek Habitat Restoration Project and it will restore Rush Creek to its original channel, prevent erosion, create Brook Trout habitat, and prevent the washout of Walbridge Road in the state of New York. Rush Creek is in the Genesee River Watershed and a tributary to Lake Ontario. The USFWS's Lower Great Lakes Fish and Wildlife Conservation Office will be responsible for project oversight and implementation.

Great Plains Fish Habitat Partnership

Communications & Outreach

The Great Plains FHP has put the website through a total makeover. With a tremendous amount of assistance from the Montana Institute of Ecosystems at Montana State University, the web page has been transformed and updated and will continue to improve as a communication tool and information sharing venue.



The strategic plan has been going through an upgrade and update. The final touches on the formatting and structure is in the final steps before going out for review and implementation.

Science

In 2019, our partnership evaluated an additional set of watersheds to prioritize fish passage barriers and that information will be consolidated with previous work.

Conservation Accomplishments

The partners acquired the final funding for two of the structures (Bouret and Karey Dams) identified for 2019 for fish passage enhancement which will allow them to be completed in 2020. For a couple of ongoing projects slated for completion in 2019, record rainfall and early snows has put initial construction on hold. Therefore, as soon as river levels stabilize next year, those projects will restart.

Hawaii Fish Habitat Partnership

Communications & Outreach

The Hawaii Fish Habitat Partnership celebrated ten years of aquatic habitat conservation with a well-attended mini film festival in Honolulu. Eight short features were screened, all of which were filmed at Hawaii FHP-supported aquatic habitat conservation sites in the main Hawaiian Islands. Since recognition by the National Fish Habitat Board in 2009, the Hawaii FHP has supported development and implementation of more than 40 conservation projects to improve fish habitat in streams, estuaries, and coastal marine waters on five islands.



Science

Financial support from the Multi-State Conservation Grant program was used for a technical review of geographic focus areas targeted for aquatic habitat conservation across the main Hawaiian Islands. New data sources from the State of Hawaii, the Nature Conservancy, and the University of Hawaii were incorporated into a GIS-based analysis to better identify watersheds

and coastal areas where conservation efforts are most likely to produce on-the-ground benefits. A revised set of base maps were incorporated into the Hawaii FHP Strategic Plan and will guide aquatic habitat restoration project planning and selection.

Conservation Accomplishments

He'eia Estuary Restoration – Over four acres of productive estuary habitat were “daylighted” by removing invasive trees and planting low-stature native replacement vegetation at the mouth of He'eia Stream. This restoration site is within the newly-designated *He'eia National Estuarine Research Reserve* where multiple partners are collaborating to restore freshwater and marine habitats for fish and aquatic invertebrates.

Fish Passage Engineering – A fish passage guidance document for Hawaiian migratory native fish and invertebrates was produced in cooperation with the U.S. Fish and Wildlife Service and the non-profit Farmer's Conservation Alliance. Preliminary fish passage design solutions for common irrigation diversion dam structures found in Hawaii were developed and made available for irrigation system operators and water management agencies.

Kenai Peninsula Fish Habitat Partnership

Communications & Outreach

The Kenai Peninsula Fish Habitat Partnership (KPFHP) held its biennial Science Symposium in April 2019 in Kenai, AK. Over 80 people attended this event, with topics presented addressing a wide-range of partner activities. The symposium also provided an opportunity to gain feedback regarding the partnership's highest rated freshwater and marine threats, and how the partnership addresses those threats through strategic, conservation action planning. This feedback is particularly important as the partnership scheduled a review/revision of its strategic plan and freshwater conservation action plan in early 2020.



As a core element of all funded partnership projects, communication and outreach activities occurred for all partnership funded projects in 2019. Of special note is the Stream Watch program, a volunteer driven effort to facilitate riparian health by protecting intact areas, restoring areas of concern and educating the public about the importance of near shore habitats, their health and actions that help protect them.

Science

The KPFHP continued work on the largest culvert replacement the State of Alaska has ever completed, which was completed on the Sterling Highway for Crooked Creek in August 2019. Partners completed assessment work, monitored construction activities and are monitoring juvenile coho and hydrologic response to

this fish passage improvement project. This barrier has been a high-priority project for the USFWS Alaska Region and the partnership for a number of years, and this project will fill data gaps in understanding of the seasonal and spatial movement of juvenile coho, as well as provide invaluable information with regard to the effects of the culvert replacement.

In addition, the partnership also funded a project to build upon a long-standing wetland database for the western Kenai Peninsula. This project aims to quantify wetland loss by geomorphic type and watershed from 1949/1951 to present. This effort is focused on the most highly developed watersheds on the Kenai Peninsula to further understand the effects and scope of urbanization. This project addresses the third and fourth-highest rated freshwater threats to the partnership's geography, incompatible road development and residential development in riparian areas.

Conservation Accomplishments

The KPFHP continued conservation efforts on its highest rated freshwater threat, injurious invasive aquatic species, specifically Elodea. Partnership efforts focused on early detection for the presence of Elodea in highly vulnerable waterbodies prior to further spread and injury to pristine Kenai Peninsula fish habitat. This project also developed comprehensive educational material and help distribute them to local schools and regional recreational float-plane operators. Partners also continued support of a long-standing (established in 2000 and operated continuously since) project to monitor the water quality of the Kenai River and its watersheds twice annually, addressing a number of partner priorities and needs.



Mat-Su Basin Salmon Habitat Partnership

Communications & Outreach

In 2019, the Mat-Su Salmon Partnership continued to build upon past successes, while forging new ones as it worked to achieve its strategic goals. The Partnership completed an Addendum to the 2013 Strategic Action Plan that includes updates to conservation objectives, and identifies organizational priorities to strengthen overall effectiveness, resilience, and improve the Partnership's ability to meet conservation goals outlined in the Strategic Plan. A greater focus on education, and amplifying Partnership science, are two organizational priorities identified in the Addendum where the Partnership will be increasing its focus.

In 2019, outreach initiatives included hosting the 12th annual Mat-Su Salmon Science & Conservation Symposium – an annual forum to collaborate, network and share information about the latest salmon science, conservation and restoration activities.

This year's goals included learning more about our Alaska Native Partners and first salmon stewards, helping bring to light traditional knowledge, values, and perspectives to benefit conservation and salmon sustainability.

Science

Continued investment in science, is improving the Partnership's ability to answer complex questions. Ongoing stream temperature, flow and juvenile salmon assessments by multiple partners for example, have merged to create an interdisciplinary effort focused on the Deshka and Little Susitna Rivers – two very important salmon producers in the region. This effort will help the Partnership understand and forecast what the Mat-Su's broader salmon habitat may look like in a changing climate, and identify how and where we should be focusing efforts for the greatest resiliency, and outcomes for salmon.

Other science initiatives in 2019 included an updated evaluation of the economic contributions of sportfishing to the Cook Inlet region, and continuation of the Mat-Su Borough's recurring aerial imagery program, including acquisition of higher resolution Lidar imagery. Due to the vast area of the Mat-Su basin and limited road system, recurring aerial imagery is a critical asset for managing and assessing freshwater salmon habitat in remote areas, and allows us to better understand how and where salmon systems are being pressured in urbanized areas.

Conservation Accomplishments

In 2019, partners protected 242 acres of priority salmon habitat, with nearly 9,000 conserved since 2005, and continued to add stream miles to the Anadromous Waters Catalogue, which affords these streams greater protection under state law. A collaborative water reservation program continues to systematically work toward protecting the most threatened priority water bodies in Mat-Su while also informing projected, and actual impacts from climate change. The very hot and dry conditions of summer 2019 broke air and stream temperature records, and were a reminder of how important conservation and restoration of salmon habitat will be in supporting resilience in a changing climate.

Conservation work creeks in the core-populated areas have been completed, with partners continuing work on the next priority creeks in the watershed that, in 2019, included gaging on two creeks – one of which is an index site that will be used to secure water rights on two additional creeks. Partners protected, rehabilitated, and removed detrimental debris on over 800 feet of shoreline by working with private landowners through a cost-share program, and continued to address habitat threats from Northern pike and aquatic invasive plants Elodea and Reed Canary Grass. In fall of 2019, Elodea was discovered in Big Lake and eradication treatments were applied within a month. Efforts will continue to address known infestations in Alexander,

Sucker and Big Lakes, and prevent its further spread to other areas. In 2019, partners replaced two priority barriers to fish passage, opening 2.2 upstream miles.

To date partners have improved fish passage at over 100 sites, and are preventing the creation of new barriers, with fish friendly design standards on borough owned roads.

Midwest Glacial Lakes Partnership

Communications & Outreach

The Midwest Glacial Lakes Partnership newsletter reached over 700 contacts, sharing information about the partnership's Lake Conservation Grant, its Lake Conservation Planner, and other resources.



The partnership completed a grant developing marketing materials for lakefront property owners to implement more natural shoreline practices.

The partnership initiated its Lake Conservation Webinar Series, with three webinars held in 2019.

Science

The partnership released its [Conservation Planner](#), a web tool that provides information to support ecosystem-based conservation to benefit fish habitat. This planning tool uses scoring based on the modeled presence of inland lake fishes, shoreland land cover, watershed land cover, and climate change resiliency of each lake in the partnership.

The partnership led a [glacial-lakes-themed issue of the North American Lake Management Society magazine](#), which addressed information gaps identified by partners, in the peer-reviewed journal Lake and Reservoir Management.

The Partnership Science and Data Team presented results from its Phase II Assessment of Midwest Glacial Lakes Fish Habitats and its Cisco and Walleye lakes Assessment work at numerous professional and stakeholder meetings.

Conservation Accomplishments

The partnership awarded \$190,501 in funding to conservation projects in 2019, including projects to: enable connectivity for Sturgeon and other species in Prairie Lake and Lizzie Lake, MN; restore of private property owner's shorelines around Pickerel Lake, SD; and assess watershed nutrient inputs to Lake Wawasee, IN.

The partnership assisted the Namakagon Lake (WI) Association in obtaining funding for their large woody habitat project funded by the FishAmerica foundation.

The partnership worked to remove a perched culvert blocking upstream fish migration from Duck Lake, MI, reconnecting over eight miles of tributary streams.

Shoreline restorations on seven properties in Stearns County, MN reduced nutrient and sediment inputs to the adjacent lakes, and shoreline restorations on Eagle Lake, MI were conducted and assessed for their potential to intercept septic system effluent prior to input through groundwater flow into the lake.

Ohio River Basin Fish Habitat Partnership

Communications & Outreach

In 2019, the Ohio River Basin FHP (ORBFHP) transported the Ohio River Valley Water Sanitation Commission's mobile aquarium to two events on the banks of the Great Miami River in Troy, Ohio. The first event was the Great Miami Riverway Summit. This



is a gathering of the elected officials, city managers, and city engineers presenting on the needs and methods to capitalize on one of their most valuable assets, the Great Miami River. The second event was the Tour de Donut bicycle race in Troy, OH. Thousands of visitors got a chance to see the species of fishes in the river in their own back yard for the first time. In addition, a paddling pool was set up to give people, young and old, an opportunity to try their hand at paddling a canoe or kayak.

The ORBFHP coordinators also held three public meetings in Troy, OH and Piqua, OH as part of a dam removal / modification feasibility study. This project is now moving forward with funding and local support. We also had the chance to speak at the Ohio River Basin Alliance, and deliver the keynote address to the Ohio Watershed Leaders Network. In an effort to collaborate across multiple agencies, ORBFHP met with the Ohio EPA Director to educate about the ORBFHP and partnership possibilities, and met with the Indiana Department of Environmental Management to facilitate a more streamlined permitting process for dam removal.

Science

In 2019, the ORBFHP expanded the Basin Wide Mussel Initiative. The Basin-Wide Mussel Initiative (BWMI) seeks to identify and support projects that increase the understanding of the causes of mussel declines and help develop effective, science-based conservation strategies. The BWMI has identified the following focal conservation topics, which it considers most urgent for understanding and reversing mussel declines: Physical habitat; Environmental Contaminants; Food webs and Ecosystem Services; Pathogens, Parasites, and Invasive Species; Dams, Fragmentation, and Connectivity; and, Development of Short-term Evaluation Metrics.

The ORBFHP is also developing a watershed planning guidebook focusing on hydrology. By focusing on hydrologic restoration, and in particular, restoration of the natural bed sediment disturbance regime, watershed-scale management can promote a shift toward geomorphic equilibrium, reduced nutrient loadings associated with bank erosion, and improved benthic habitat that is more supportive of ecosystem function. This approach promotes strategies that are orders of magnitude less expensive than conventional approaches in order to allow wide-scale implementation and produce meaningful results in the stream.

Conservation Accomplishments

In 2019, the ORBFHP was very active in dam removal projects. Two dams on Indian Creek of the Blue River in southern Indiana were removed in 2019. Removal of these two dams reconnected 290 stream miles and restored critical habitat for the Eastern hellbender (*Cryptobranchus alleganiensis*). This species can now be reintroduced into Indian creek. In another Eastern hellbender stream in the Captina watershed in eastern Ohio, articulating concrete mats were installed at low water crossings to end sedimentation in one of the few remaining areas hellbenders have successful recruitment. The ORBFHP also helped fund and facilitate the removal of two of the five dams in Muncie, IN on the White River and modify a third dam for fish passage and safe recreation. A fourth structure on the White River was also queued up in 2019 for modification. In Batavia, OH, the ORBFHP worked with partners to remove a large low-head dam on the East Fork of the Little Miami River (EFLMR). This will allow the EFLMR to attain “Exceptional Warm Water” designation and open up an additional 20 miles of stream habitat. Additional monitoring of the innovative fish passageway structure (fish ladder) at the Stockdale dam in the Eel River of northern Indiana continued in 2019. This project reconnected 750 stream miles. To date, this fishway has passed 43 of the 51 species inhabiting the Eel River and provides a model for a new tool in fish passage in Midwestern streams and beyond.

Pacific Lamprey Conservation Initiative

Communications & Outreach

In 2019, the Pacific Lamprey Conservation Initiative (PLCI) partnered with the Oregon Zoo in developing and opening a new Pacific Lamprey Exhibit. Five adult Pacific Lamprey from the Umatilla Tribe’s translocation program are on display at the Zoo. Interpretive material describing the evolutionary, ecological and cultural importance of Pacific Lamprey will be experienced by the Zoo’s 1.7 million visitors annually.

The Lamprey Technical Workgroup (PLCI’s science committee) hosted their 3rd annual Lamprey Information Exchange in December 2019. Technical sessions covering tribal ecological

knowledge, regulatory and management, methodologies, other lamprey species, contaminants, and alternative passage fixes were convened. This annual science workshop has grown from 90 participants in the first year to 165 this year who participated from throughout the range of lamprey.

Science

The Communications and Outreach is also a significant science achievement for the PLCI as speakers and participants share and take emerging science, methods and technology back to their organizations to implement and improve conservation for lamprey. The Lamprey Technical Workgroup continued working on passage, juvenile entrainment, dredging, contaminants, ocean conditions, restoration, eDNA and population genetics, and tagging this year. The Workgroup develops white papers and best management practices to address threats to lamprey and to guide restoration practitioners in incorporating lamprey needs.

The PLCI published the revised status assessment in 2019. The Pacific Lamprey Assessment is revised every five years. The new Assessment can be found online [HERE](#).

Conservation Accomplishments

Initiative partners implemented many conservation and restoration projects in 2019. The Initiative receives funding from the Bonneville Power Administration, as part of the PLCI Columbia River Basin project. Six projects were funded and are currently being implemented in multiple Regional Management Units (RMUs) in the Columbia Basin. Passage improvements for both adult and juvenile lamprey, BMPs for lamprey passage at culverts, evaluation of lamprey passage at hatchery barriers, and distribution and habitat assessments were some of the projects implemented this year.

Two projects funded by NFHP operational funds were implemented in 2019. A culvert removal in the South Coast Oregon RMU and habitat and distribution assessment in the southern-most California RMU.

Pacific Marine and Estuarine Partnership

Communications & Outreach

The Pacific Marine and Estuarine Partnership (PMEP) focused communications activities in 2019 on three goals:

increase the use of PMEP products, tools and assessments to improve conservation and restoration along the West Coast; build diverse partnerships and membership on PMEP steering and other committees; and improve the quality and quantity of proposals received for PMEP funding.



To achieve these goals, PMEP and its partners engaged with restoration practitioners, researchers, and managers at 18 events in 2019, providing presentations at seven regional and national events, reaching over 300 people with information about PMEP tools and demonstrations of their utility. Additionally, an important publication of PMEP's tidal Wetland Loss Assessment in PLOS ONE garnered extensive press coverage [HERE](#). The study was featured in no less than 35 media articles ranging from local newspapers to national newsletters. The paper also generating over 200 data downloads from PMEP's data tools, indicating increased use of the data by practitioners. PMEP also increased its use of its online newsletter, publishing quarterly newsletters and increasing subscribers by 100%.

Science

PMEP completed the update to its Tidal Wetland Assessment by identifying tidal wetlands that have been restored. PMEP gathered data on 127 tidal reconnection projects in 55 estuaries that had previously been classified as 'lost' to determine which have undergone restoration and can be reclassified as 'restored.' The assessment found that more than 19,000 acres of tidal habitat had been restored in the estuaries investigated. A report of the project was produced, and data layers were added to PMEP's Estuary Explorer web-based data tool (<http://www.pacificfishhabitat.org/data/>).

PMEP initiated two additional projects in 2019. Its Nearshore Project will compile datasets and produce a State of the Knowledge report on fish habitat in the nearshore along the U.S. West Coast. Its Barriers to Tidal Connectivity Project will assemble a catalog of datasets of barriers along the U.S. West Coast and bring together partners of PMEP, the California Fish Passage Forum, and the Pacific Lamprey FHP to share knowledge and restoration strategies around these barriers to tidal connectivity. PMEP also supported a project assessing and mapping of seagrass and macroalgae kelp habitats in Oregon marine reserves for its FY19 funding cycle.

Conservation Accomplishments

In its FY19 funding cycle, PMEP supported the restoration of eelgrass in the Morro Bay Estuary and off-channel slough habitat in the Mattole River Estuary. In Morro Bay, eelgrass will be transplanted from natural recruitment to locations distributed widely in the Bay. The Mattole project will provide connectivity from the mainstem/estuary of the Mattole River to 800 feet of restored slough habitat. These projects are consistent with PMEP's strategic focus on restoration of estuary and tidal habitats, which are important nursery habitats for multiple fish species.

Reservoir Fisheries Habitat Partnership

Communications & Outreach

The Friends of Reservoirs (FOR) network reached 121 organizations in 2019. These Conservation Groups are encouraged to partner with local reservoir managers to address aquatic habitat issues in their local spheres of influence. These groups are eligible for cash (\$1000 Small Projects Grants) and product grants (Mossback Fish Habitat). The FOR website (www.friendsofreservoirs.com) is being continually updated as new members, science products, and "News" items are posted. Reservoir Habitat Restoration Best Management Practices (BMP) workshops were held at the Southern Division AFS meeting and the Reservoir Fisheries Habitat Partnership Annual Meeting. Technical sessions were held at the Annual Meeting to share project and BMP information among professional reservoir managers and lay FOR members.



Science

A "Climate Change Toolkit" chapter was added to the Reservoir Habitat Management publication posted on the "Science" page of the FOR website website.

Conservation Accomplishments

RFHP/NFHP provided \$120,000 in funding for four habitat projects which was matched by \$600,000 in partner funding. Project objectives included establishing native vegetation, shoreline stabilization and restoring structural habitat. Dr. Andrew Norris from the Queensland Dept. of Agriculture and Fisheries reported on BMPs that are being tested in Australia based on "lessons learned" from his 2015 tour of RFHP projects.

Southeast Alaska Fish Habitat Partnership

Communications & Outreach

In 2019, the Southeast Alaska Fish Habitat Partnership (SEAKFHP) hosted three important statewide science-based information sharing events. The first was a live stream event sharing the latest on ocean acidification in Alaska including current and future conditions and species response, see it again [HERE](#). The next was a workshop on eDNA sampling efforts taking place across Alaska. This event brought nearly 80 participants together across the state using webinar technology to share information and discuss eDNA activities addressing salmon detection, presence of invasive species (like Elodea and pike) as well as updates on technological advances in the science of eDNA



extraction and testing. You can find meeting resources and presentations on our website [HERE](#). Additionally, SEAKFHP helped to sponsor this year's American Water Resources Association Alaska Chapter meeting bringing together researchers and natural resource managers to discuss weather and water extremes (including drought currently occurring in Southeast Alaska!), water rights and reservations, fish habitat, hazards including glacier dammed lake floods and avalanches, permafrost hydrology, and water quality. You can find the meeting materials and presentations on our website [HERE](#).

This fall, SEAKFHP was an active organizer and facilitator for the film festival held at the AFS/TWS joint conference in Reno, Nevada, where over 80 films capturing collaborative habitat conservation work were shared to over 500 meeting attendees, a digital summary and links to the films can be found [HERE](#). In addition, SEAKFHP was able to share a few of the Alaska films from the festival at a local event in Juneau celebrating the return of salmon to the Tongass National Forest. At this event, the 30 minute documentary "The Salmon Forest" (www.salmonforest.com) was shared after fishery managers from the Alaska Department of Fish and Game gave a brief presentation on the 2019 salmon returns to Southeast Alaska.

Science

SEAKFHP members have been active during 2019 in a variety of science fronts including stream temperature monitoring, updating baseline hydrography including mapping of wetlands, stabilizing coastal data sources, and examining the monetary value of salmon coming off the Tongass and Chugach national forests. Here are some highlights for each of these science related activities:

- The importance of a temperature monitoring network was identified during the 2016 Climate Workshop, hosted by SEAKFHP. Participants noted that the lack of public data or a coordinated sampling approach, combined with the prospect of climate change, meant that the region was poorly positioned to understand or prepare for future changes. Since this time, a strong network has formed and stream temperature is now being monitored year-round in over 60 sites throughout Southeast Alaska. Participating parties include state and federal agencies, the University of Alaska Southeast, non-profit organizations and Tribal organizations. In 2019, the network established an implementation plan including monitoring methods and protocols. These documents can be found [HERE](#).
- The acquisition and scientific accuracy of publicly accessible base map products, particularly targeted wetlands and hydrography, is a mapping goal of the Alaska Mapping Executive Committee (AMEC) and the Alaska Geospatial Council (AGC). The AGC formed working groups to advance action to update

Alaska's wetland and hydrography maps. The Alaska Wetland Technical Work Group (AWTWG; <http://agc.dnr.alaska.gov/wetlands.html>) developed a strategic plan (plan) to complete a statewide wetland dataset according to the Alaska's National Wetland Inventory (NWI) standard. The plan provides a proposed implementation schedule to complete the inventory within ten (10) years. SEAKFHP partners actively engage with the AWTWG and are providing input to the strategic plan.

- To help support decisions and actions that protect and maintain important coastal fish habitat, access to existing data and information is vital. In 2019 SEAKFHP partners worked to identify and archive these data resources and in 2020 will begin the process of strengthening a web-based platform so resource managers and others can access these resources. An archive for these resources can be found [HERE](#).

Conservation Accomplishments

In support of on-the-ground aquatic conservation activities, SEAKFHP and their partners made contributions during 2019 across a variety of habitat assessment, planning and restoration projects. Below is a brief description for a few of these:

- Aquatic Organism Passage: In 2017, SEAKFHP launched the Tongass Top five Fish Passage Design Campaign, a campaign focused on building shelf stock of design drawings for fish passage projects needed on the Tongass National Forest. Since that time, SEAKFHP worked closely with USFWS and USFS partners capturing momentum of this campaign to leverage multiple funding opportunities leading to 30 fish passage designs that are anticipated to be completed by fall of 2020. Additionally, many of the design sites are now moving towards implementation.
- Wrangell Area Watersheds Assessment: The goal of this assessment was to compile a dataset and report outlining key aquatic resources within the City and Borough of Wrangell, including an assessment of the current habitat conditions, identification of sites that could benefit from restoration and treatment, and outlining watershed management challenges and opportunities. You can find the full report [HERE](#).
- Klawock Watershed Action Plan: In 2017, The Nature Conservancy partnered with the Klawock Cooperative Association (KCA), SEAKFHP, and many others to host the Klawock Lake Sockeye Salmon Stakeholders Meeting, a forum that allowed resource professionals and community members to interact and exchange information and concerns about the current status of sockeye salmon in this watershed. In 2019, a watershed action plan was completed, including details for restoration opportunities within the Threemile Creek watershed, the report can be found [HERE](#).

- Hoonah Native Forest Partnership Watershed Management Plan (SEAKFHP nominated 2019 NFHP Waters to Watch): The Hoonah Native Forest Partnership (HNFP) was formed in 2015, an alliance of landowners, organizations, and stakeholders advocating for the Hoonah area. The HNFP works to assess resource conditions and identify projects intended to improve fish and wildlife habitat, ensure long-term timber production, and support sustainable watershed management. In 2019, the partnership completed a short-term land management strategy and long-term vision of the partnership, it is available [HERE](#).

Southwest Alaska Salmon Habitat Partnership

Communications & Outreach

The primary outreach activity for 2019 for the Southwest Alaska Fish Habitat Partnership (SWAK), was the Bristol Bay Fly Fishing & Guide Academy held from June 3 to 11 at Mission Lodge on Aleknagik Lake near Alaska's Wood-Tikchik State Park. The Academy is a week-long intensive course using fly fishing as a means for imparting to young adults from the remote Bristol Bay region of Alaska an appreciation of fish habitat and the larger issues of fisheries science, resource management, ecology, land use and conservation. Over 30 youth applied of which 15 were accepted. A variety of federal and state agency, university, lodge and NGO personnel served as voluntary instructors (including a member of the Alaska Board of Fish). The partnership coordinator organizes and raises private and government support for the annual academy. Two older students were employed after the Academy at a local lodge.



Science

SWAK partner, the University of Alaska completed a fifth year of environmental baseline data collection and assessment (fish, macroinvertebrates, water chemistry and temperature, etc.) in headwater streams of the Nushagak and Kvichak watershed.

SWAK partner, the Partner Alaska Department of Fish & Game completed a third year of water level data collection for instream flow reservations on the Kokwok and Iowithla Rivers and Napatoli Creek tributaries to the Nushagak River.

SWAK partner, the Partner University of Washington completed a project to assess the utility of using drones to monitor and assess beach spawning sockeye on islands in Lake Iliamna.

SWAK partners, the Partners Bristol Bay Heritage Land Trust and Cook Inlet Keeper collected last year of stream temperature data from loggers deployed with assistance from the Partnership and Western Alaska Landscape Conservation Cooperative for the Bristol Bay regional stream temperature network

Conservation Accomplishments

SWAK partner, the Partner Bristol Bay Heritage Land Trust, with assistance from partners State of Alaska, The Conservation Fund and a USFWS National Coastal Wetlands grant closed a conservation easement deal over 1200 acres over 43 islands in Lake Iliamna to protect habitat for island beach spawning Sockeye salmon and haul outs for a local freshwater seal population. The transaction supplements an earlier successful effort in 2017 to protect 13000 acres over 130 islands in the same archipelago.

Partners including, the Bristol Bay Heritage Land Trust facilitated acquisition by the Igiugig Tribal Government of 160 acres at the mouth of an Anadromous tributary to the Kvichak River.

Western Native Trout Initiative

Communications & Outreach

The Western Native Trout Initiative (WNTI) launched a major new program in 2019 called the Western Native Trout Challenge. <https://westernnativetrouchallenge.org/> The Challenge is a new lifetime goal opportunity "aka a bucket list item" that anglers navigate at their own pace. By participating in the Challenge, anglers learn about native trout and where to find them, earn bragging rights, rewards, and help the Western Native Trout Initiative (WNTI) conserve 21 native trout and char species in 12 states. Participants can soak in the beauty of western landscapes and share the thrill of the catch with family and friends in a series of journeys at fishing destinations. The purpose of the Challenge is to strengthen angler awareness of these unique native species, help anglers understand what is being done to conserve native trout and grow the community of trout fishing aficionados. Adults 18+ pay a one-time fee of \$25 and get maps, information, rewards, beautiful scenery and fishing adventures all while learning about trout species, best locations and conservation. Kids 17 and under play free. \$23 of each \$25 program registration fee goes back on the ground to help conservation for these species.



In 2019, WNTI continued their successful collaboration with RepYourWater.com and launched a new line of western native trout hats to continue the popular series originally launched in 2017. The hats have been very popular with anglers and other members of the public. WNTI started a hashtag "#matchthehat" on social media and invite people to share photos of themselves holding a native trout that matches the native trout on their hat. Hats are sold online at [RepYourWater](#), and through wholesalers (i.e. fly shops). A percentage of the proceeds from hat sales supports on-the-ground habitat conservation projects in all 12 states where WNTI works. WNTI also continues to build on previous outreach efforts to the public through active

Facebook and Instagram feeds and a variety of events. In 2019, WNTI co-hosted a NFHP film festival with other Fish Habitat partnerships at the 2019 American Fisheries Society meeting.

Science

In late 2016, the WNTI Steering Committee approved an updated strategic plan and set strategic priorities for the next seven years. Focal species for 2017-2020 include the Rio Grande Cutthroat Trout, Bonneville Cutthroat Trout, and Interior Redband Trout. In 2017, WNTI began working intensively with the rangewide, interagency conservation team for Bonneville Cutthroat Trout to identify a portfolio of priority habitat projects in the Upper Bear River Basin. To date, WNTI has secured non-federal funding of approximately \$622,000 for 12 projects in the Bear River portfolio.

In 2018, WNTI completed a similar strategic portfolio building process with the interagency leadership of the Rio Grande Cutthroat Trout team and then the Interior Redband Trout team. In 2018, WNTI was able to secure funding for one of the projects in the Rio Grande Cutthroat Trout portfolio and in 2019, WNTI secured additional non-federal funding of \$190,000 for the first four Interior Redband Trout projects in that portfolio in the Warner Basin (OR), with a commitment for five more years of funding totaling \$993,000.

WNTI was also able to fund a genetics status assessment for a Columbia basin Redband Trout population in Central Oregon in two watersheds that will fill a critical knowledge gap affecting management and conservation of this species.

Conservation Accomplishments

In 2019, WNTI and their partners funded eight habitat restoration projects benefiting focal species with a total of \$206,864 National Fish Habitat Partnership funds leveraged to partner matches of almost \$2.186 million for a total projects value of \$2,186,000.

Projects were wide ranging and diverse, including:

- A major habitat project on Sand Creek in The Great Sand Dunes National Park and Preserve (CO) to support an eventual Rio Grande Cutthroat Trout re-introduction to 12 stream miles and two high elevation lakes.
- A continuing project on Tincup Creek (ID) to benefit Yellowstone Cutthroat Trout.
- Funding the second phase of an innovative project on Deep Creek (OR) that restores aquatic habitat conditions and riparian function within the Deep Creek watershed, the most interconnected habitat for Redband Trout in the Crooked River basin.
- The Selway Creek (MT) project that will install a fish barrier that will directly result in re-establishment of a genetically unaltered Westslope Cutthroat Trout population of over 25,000 individuals occupying about 48 miles of stream.
- A project in partnership with the Yaak Valley Forest Council to perform active and passive road decommissioning and removal of culverts to open critical spawning habitat for a genetically pure population of Westslope Cutthroat Trout.
- Partially funding an important fish barrier on Wall Creek (MT) to protect eight miles of habitat occupied by genetically pure Westslope Cutthroat Trout and support a future Arctic Grayling translocation.



Maunalua Bay, Oahu (Hawaii Fish Habitat Partnership)